

D-X119W

STEREO CASSETTE DECK

CAUTION

1. Parts identified by the Δ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

NOTICE

1. The symbols UL, CSA, EU, SS and XX (EXPORT) on the parts list and the schematic diagram mean followings respectively.
 UL/CSA Manufactured for U.S.A./Canadian market.
 (UL: Underwriters Laboratories approved model.)
 EU Manufactured for European market.
 SS Manufactured for Saudi Arabian market.
 XX Standard Version.
 (EXPORT)
 NON MARK Common Parts.
2. Some printed circuit boards are not supplied assembled. To separate these in this service manual, the part numbers are not indicated for these boards. However, part numbers for individual parts are indicated.
3. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.
4. Abbreviations in this service manual are as follows:

Abbreviations List

C.R. : Carbon Resistor
 S.R. : Semiconductor Capacitor
 M.R. : Metal Film Resistor
 F.R. : Fusing Resistor
 C.K. : Ceramic Capacitor
 C.C. : Ceramic Capacitor,
 Temperature Compensation

E.C. : Electrolytic Capacitor
 E.L. : Low Leak Electrolytic
 Capacitor
 E.B. : Bi-Polar Electrolytic
 Capacitor
 E.B.L.:Low Leak Bi-Polar
 Electrolytic Capacitor

M.C. : Mylar Capacitor
 V.R. : Variable Resistor
 S.V.R.:Semi-Variable Resistor
 SW. : Switch
 S.C. : Styrol Capacitor

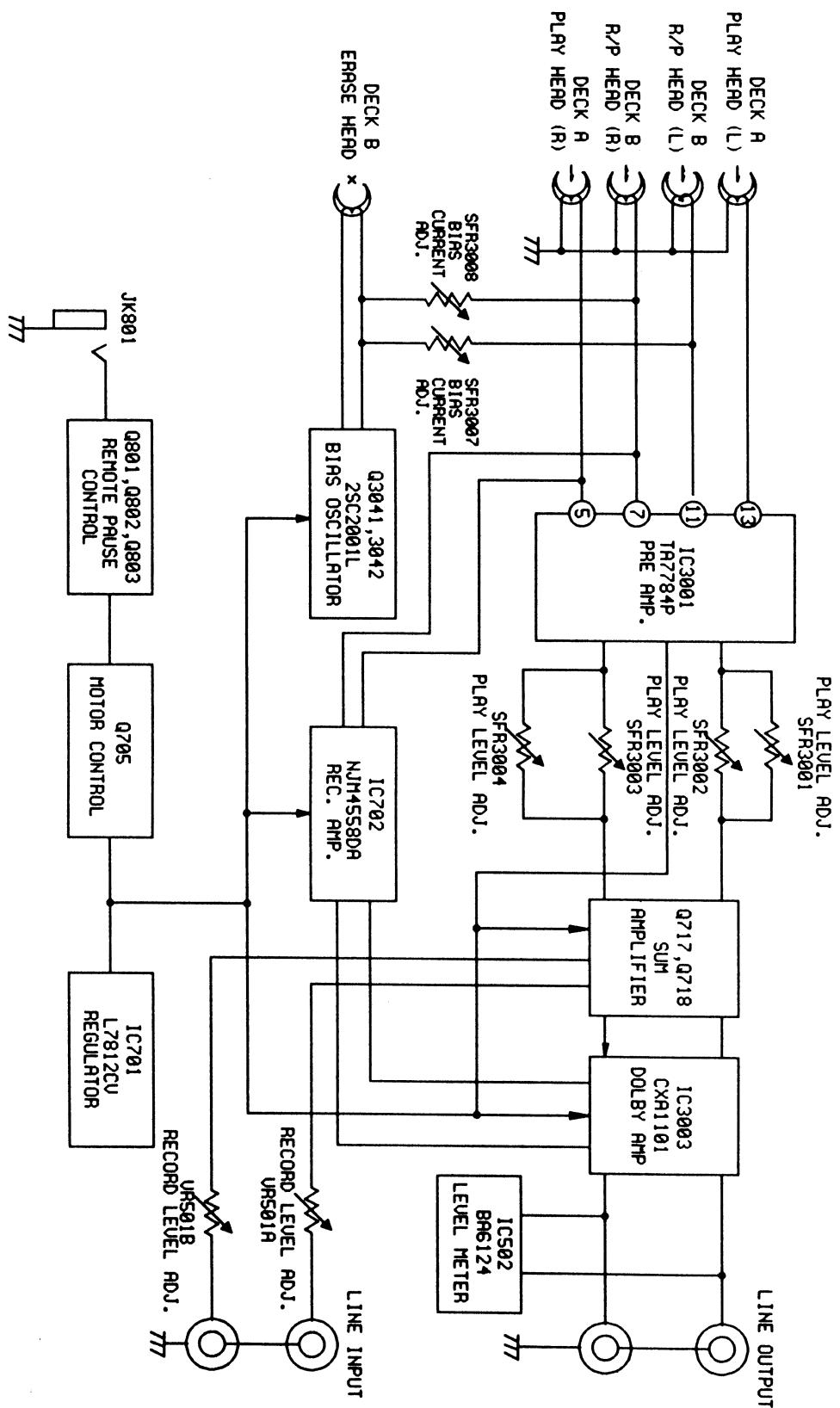
Specifications

Track format	4-track/2-channel system
Tape speed	4.75 cm/sec.
Wow/flutter	0.15% max. (WRMS)
Fast forwarding (rewinding) time	Approx. 170 sec. (for C-60 tape)
Frequency response	Normal tape (LH) 125 to 12,500Hz 4dB
Signal-to-noise ratio	DOLBY NR ON Better than 50dB
Input sensitivity	LINE IN (REC) 100mV
Power requirements	120/220-240V (50/60Hz)
For U.S.A. and Canada	120V (60Hz)
European	230V (50Hz)
Asia	120V/230V (50/60 Hz)

Power consumption	15 watts
Dimensions	430 mm (16/15/16") W 132 mm (5-3/16") H 215 mm (8-1/2") D
Weight	3.6 kgs (7.9 lbs) net

- Design and specifications subject to changes without notice for improvements.
- Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage a selectors.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY", the double-D symbol () are trade marks of Dolby Laboratories Licensing Corporation.

1. BLOCK DIAGRAM



2. ADJUSTMENT (See Fig. 2-5 Adjustment Points on page 4)

2-1. Tape Speed Adjustment

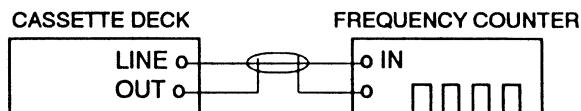
Notes: 1. Use TEAC Test Tape, MTT-111.
(3 kHz signals are recorded on the tape).

2. Connections are shown in Fig. 2-1.

Fig. 2-1

(1) High Speed Adjustment

Notes: 1. Set the DUBBING switch ON
2. Set the NORMAL/HIGH switch HIGH



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1	High Speed Adj.	LINE OUT Frequency Counter	1. Short between Test Point TP10 and TP11(See Fig. 2-5) 2. Play Back the TEST TAPE MTT-111 A Side Mecha.	Turn the SFR3010 on the Main Board (See Fig. 2-5)	5562Hz-5292Hz	

(2) Normal Speed Adjustment

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1	Normal Speed Adj.	LINE OUT Frequency Counter	Playback the TEST TAPE MTT-111 B Side Mecha.	Turn the SFR3009 on the Main Board (See Fig. 2-5)	3090Hz-2940Hz	

2-2. Playback Adjustment

Notes: 1. Before this adjustment, clean REC/P.B. head surface.
2. For this adjustment, use TEAC Test Tape, MTT-114N and MTT-150.
3. Set the Dolby NR switch to OFF.
4. Connections are shown in Fig. 2-2.

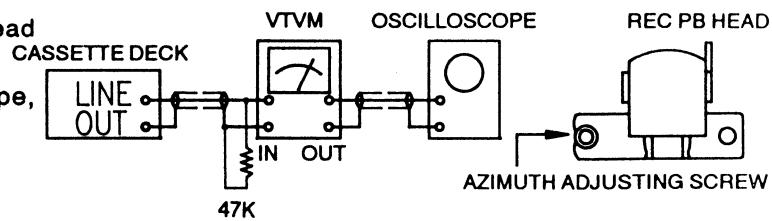


FIG. 2-2

FIG. 2-3

(1) a-Side Mecha. Adjustment

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1	P.B. Head Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE MTT-114N	Adjust the Azimuth Adjusting Screw in Fig. 2-3.	Max. Output Both Channels.	After This Adjustment, Lock the Screw with Paint.
2	Playback Level Adj.	VTVM Connected to TP13(L), TP14(R) and TP15 (G).	Playback the TEST TAPE MTT-150	Adjust Each SFR3001(L) and SFR3002(R), Main Board	548mV +- 1dB	See Fig. 2-5

(2) b-Side Mecha. Adjustment

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1	REC / P. B. Head Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE MTT-114N	Adjust the Azimuth Adjusting screw in Fig. 2-3.	Max. Output Both Channels.	After This Adjustment, Lock the Screw with Paint.
2	Playback Level Adj.	VTVM Connected to TP13(L), TP14(R) and TP15(G).	Playback the TEST TAPE MTT-150	Adjust Each SFR3003(L) and SFR3004(R), Main board.	548mV +- 1dB	See Fig. 2-5

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2-3 Bias Adjustment

Notes: 1. For this adjustment, use TEAC Test Tape, MTT-5521.
 2. Set the Dolby NR switch OFF
 3. REC LEVEL volume Max.
 4. Connections are shown in Fig. 2-1.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1	Bias Frequency Adj.	Between Point TP1 and TP2 for Frequency Counter.	1. Load the TEST TAPE MTT-5521. 2. Push the REC and PLAY Button.	Turn the core of L3007 (Main Board)	140kHz +-5kHz	See Fig. 2-5

2-4. TRAP Coil Adjustment

Notes: 1. Connections are shown Fig. 2-2.
 2. Use TEAC Test Tape MTT-5521.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1	Trap Coil Adj.	Between Test Point TP3 and TP5 L-CH, Test Point TP4 and TP5 R-CH. Volt Meter and Scope.	1. Load the TEST TAPE MTT-5521. 2. Push the REC and PLAY Button.	Turn the Core of L3005 L-CH, L3006 R-CH. (Main Board)	Min. Output Both Channels.	See Fig. 2-5

2-5. Bias Current Adjustment

Notes: 1. TEAC Test Tape MTT-5521 (Normal).
 2. TDK Test Tape TDK-AC-513 (CrO2).

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1	Normal Tape	VTVM Connected to TP7 & TP9	Normal Tape REC.	SFR3007	Adjust for 3.5mV
		VTVM Connected to TP6 & TP8	Normal Tape REC.	SFR3008	Adjust for 3.5mV
2	CrO2 Tape	VTVM Connected to TP7 & TP9	CrO2 Tape REC.	-	Check for 6.3mV +20%
		VTVM Connected to TP6 & TP8	CrO2 Tape REC.	-	Check for 6.3mV +20%

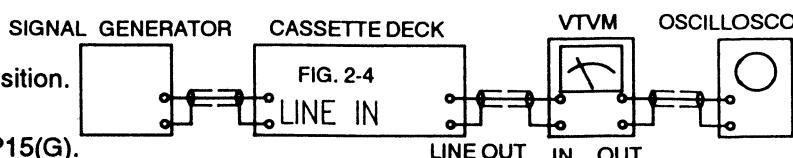
2-6. Peak Level Meter Adjustment

Notes: 1. Set the REC LEVEL volume to be Max. position.
 2. Use TEAC Test Tape MTT-150.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1	Peak Level Meter Adj.	Peak Level Meter	Playback the TEST TAPE MTT-150	Adjust SFR701 For both channels. (Main Board)	Lighten the 3rd LED (0dB) of Peak Level Meter.	See Fig. 2-5

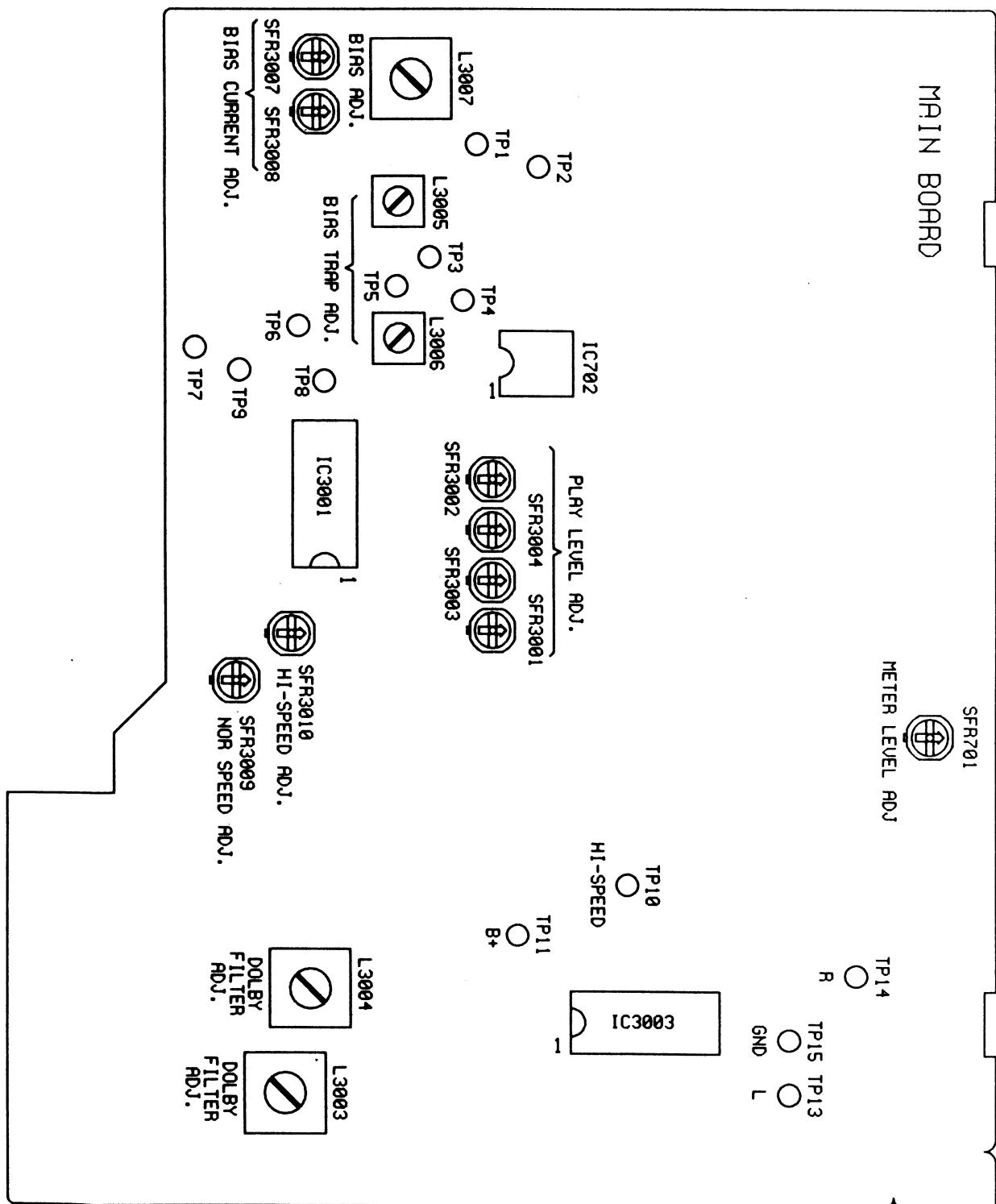
2-7. Filter Adjustment (b-Side Mecha. Only)

Notes: 1. Set the REC LEVEL volume to be Max. position.
 2. Connections are shown in Fig. 2-4.
 3. VTVM connected to TP13(L), TP14(R) & TP15(G).



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1	19kHz Filter Adj.	Feed 19kHz from Audio S.G. into LINE IN.	VTVM Connected to TP13(L), TP14(R) and TP15(G).	Push the REC and PLAY Button.	Turn the core of L3003 L-CH and L3004 R-CH. Min. Output Both Channels.	See Fig. 2-5

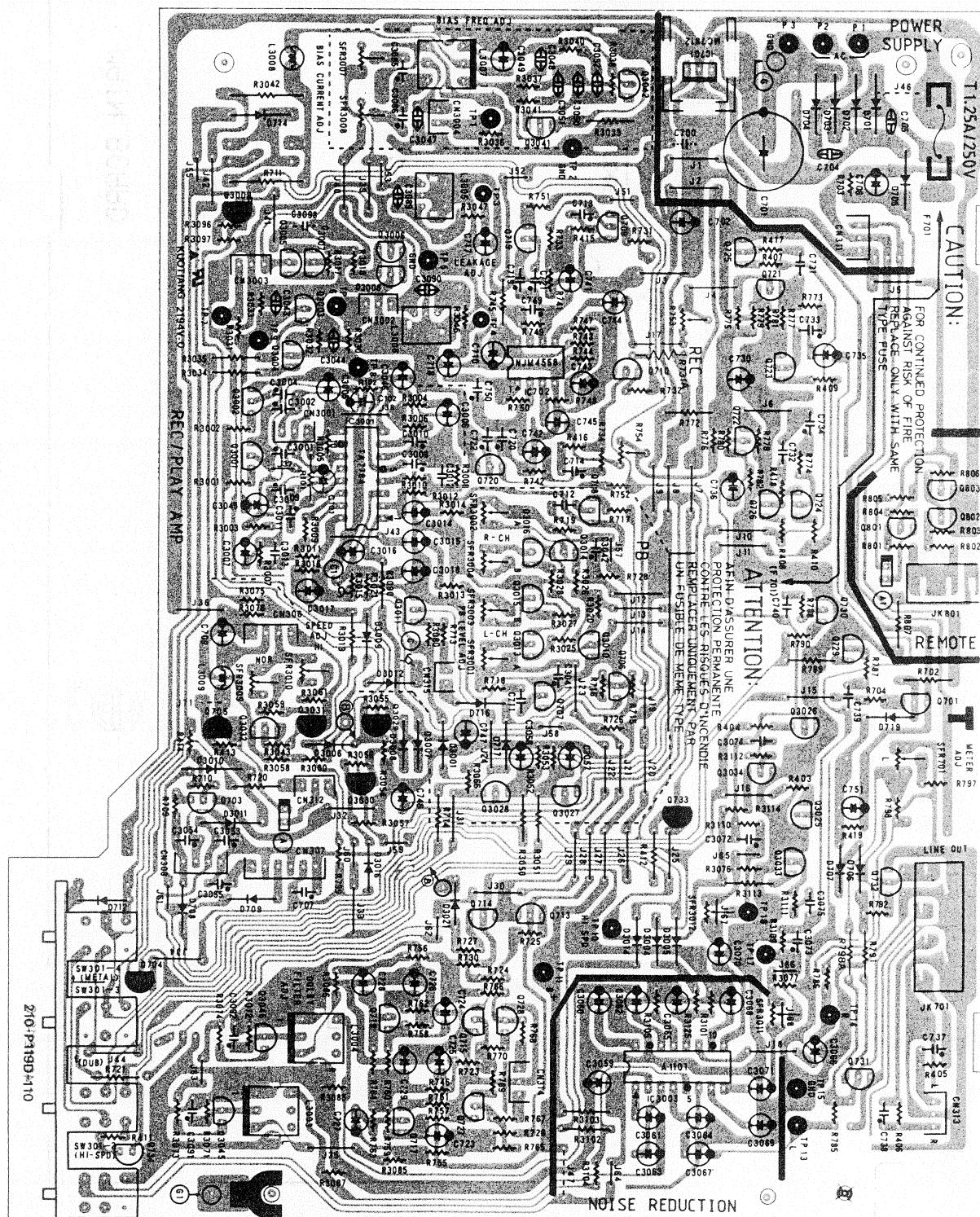
Fig. 2-5 Adjustment points on Main board



3. PARTS LOCATION ON BOARD

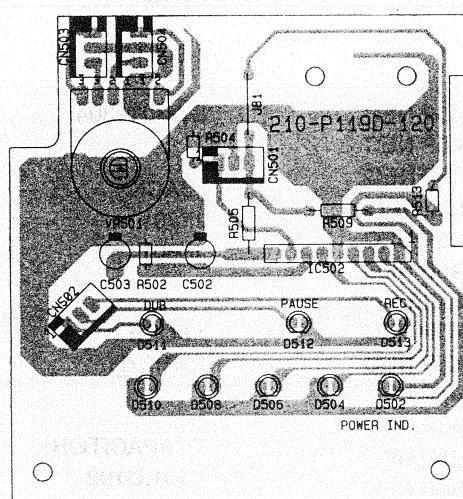
3-1. Main Board

Component Side



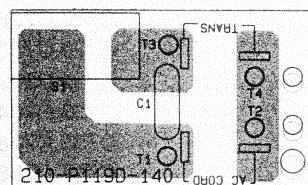
3-2. Level Control/Display Board

Component Side



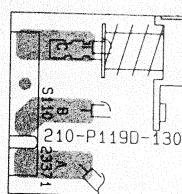
3-3. Power Switch Board

Component Side



3-4. Selector Switch Board (SS,XX)

Component Side



4. PARTS LIST OF BOARD

4-1. Main Board

Ref. No.	Part No.	Description
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* Transistor

Q701	170-H57C945P	2SC945P NEC
Q703	170-H57C945P	2SC945P NEC
Q704	170-H58A733P	2SA733P NEC
Q705	170-H58A952L	2SA952L NEC
Q706-Q710	170-H57C945P	2SC945P NEC
Q713-Q715	170-H57C945P	2SC945P NEC
Q717,Q718	170-H571842E	2SC1842E NEC
Q719-Q732	170-H57C945P	2SC945P NEC
Q801-Q803	170-H57C945P	2SC945P NEC
Q3003-Q3008	170-H57C945P	2SC945P NEC
Q3009	170-H58A733P	2SA733P NEC
Q3010,Q3011	170-H57C945P	2SC945P NEC
Q3013-Q3016	170-H57C945P	2SC945P NEC
Q3025-Q3028	170-H57C945P	2SC945P NEC
Q3029-Q3031	170-H58A733P	2SA733P NEC
Q3032-Q3034	170-H57C945P	2SC945P NEC
Q3041,Q3042	170-H572001L	2SC2001L NEC
Q3045,Q3046	170-H57C945P	2SC945P NEC

* IC

IC701	160-H6M7812A	NJM7812A JRC
IC702	160-H6M4558DA	NJM4558D-A JRC
IC3001	160-H2A7784P	TA7784P TOSHIBA
IC3003	160-HMA1101P	CXA1101P SONY

* DIODE

D701-D704	151-400211	1N4002 100V
D705	151-01420A	1SS142 T-77
D706-D709	151-41481A	1N4148
D712	151-41481A	1N4148
D714	151-400211	1N4002 100V
D716,D717	151-41481A	1N4148
D719	151-41481A	1N4148
D3001	151-41481A	1N4148
D3004-D3009	151-41481A	1N4148
D3010,D3011	151-400211	1N4002 100V
D3012	151-41481A	1N4148
D3014	151-41481A	1N4148
D3016	151-41481A	1N4148
D3021	151-41481A	1N4148

L3003,L3004	219-530342	DOLBY MPX FILTER
L3005,L3006	220-530723	BIAS TRAP COIL
L3007	220-430916	BIAS OSC COIL
L3008,L3009	141-LS7471KS	CHOKE 470uH

* VR		
SFR701	101-204224	VR 200KB
SFR3001,3002	101-503221	VR 50KB
SFR3003,3004	101-203220	VR 20KB
SFR3007,3008	101-503221	VR 50KB
SFR3009,3010	101-103226	VR 10K Ω

Ref. No.	Part No.	Description
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* SWITCH

SW301-304	202-03N12A803	PUSH SWITCH SPUN12A803-DK
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* JACK	JK701	203-JT10180
	JK801	203-JT35100

* FUSE	F701	147-0125T
		(For EU model only) 1.25A/250V

* CAPACITORS	C101,C102	120-EG475M6T
	C701	120-EG228M5S

	C702	120-EG477M3S
	C704,C705	122-CF223Z6T

	C706	120-EG107M4T
	C707	134-CF223Z4T

	C709	120-EG476M3T
	C710	120-EG107M3T

	C711,C712	117-CX822K4T
	C713,C714	117-CX122K4T

	C717,C718	120-EG105M6T
	C719-C722	134-CB102K6T

	C723,C724	120-EG105M6T
	C725,C726	120-EG476M3T

	C727,C728	120-EG475M6T
	C729,C730	120-EG476M3T

	C731,C732	117-CX822K4T
	C733,C734	117-CX182K4T

	C735,C736	120-EG105M6T
	C737,C738	134-CB221K6T

	C739,C740	117-CX392K4T
	C741,C742	120-EG105M6T

	C743	120-EG106M4T
	C744,C745	121-EG225M6T

	C746,C747	120-EG106M4T
	C751	134-CB101K6T

	C751	120-EG475M6T
	C3001,C3002	134-CB471K6T

	C3005	120-EG477M1S
	C3006,C3007	120-EG476M3T

	C3008-C3011	134-CB681K6T
	C3012,C3013	117-CX103K4T

	C3014,C3015	120-EG475M6T
	C3016	120-EG107M3T

	C3017	120-EG476M3T
	C3018	120-EG106M4T

	C3019	134-CB221K6T
	C3040,C3042	120-EG475M6T

	C3043,C3044	134-CB561K6T
	C3045,C3046	120-EG475M6T

	C3047	117-CX122K4N
	C3047,A,C3048A	0.0012uF 25V S.R.

	C3047	0.0056uF 200V M.C.
	C3047	0.0056uF 200V M.C.

4. PARTS LIST OF BOARD

4-1. Main Board

Ref. No.	Part No.	Description
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* CAPACITORS

C3048	123-C682J6T	0.0068uF 50V M.C.
C3049	120-EG475M6T	4.7uF 50V E.C.

C3050	123-C472J6T	0.0047uF 50V M.C.
C3051,C3052	123-C332J6T	0.0033uF 50V M.C.

C3053-C3055	134-CF223Z4T	0.022uF 25V T.C.
C3057,C3058	120-EG105M6T	1.0uF 50V E.C.

C3059	120-EG107M3T	100uF 18V E.C.
C3060-C3063	120-EG105M6T	1.0uF 50V E.C.

C3064	120-EG107M3T	100uF 18V E.C.
C3065	120-EG106M4T	10uF 25V E.C.

6. PARTS LIST OF CABINET & MECHANISM

6-1. Cabinet

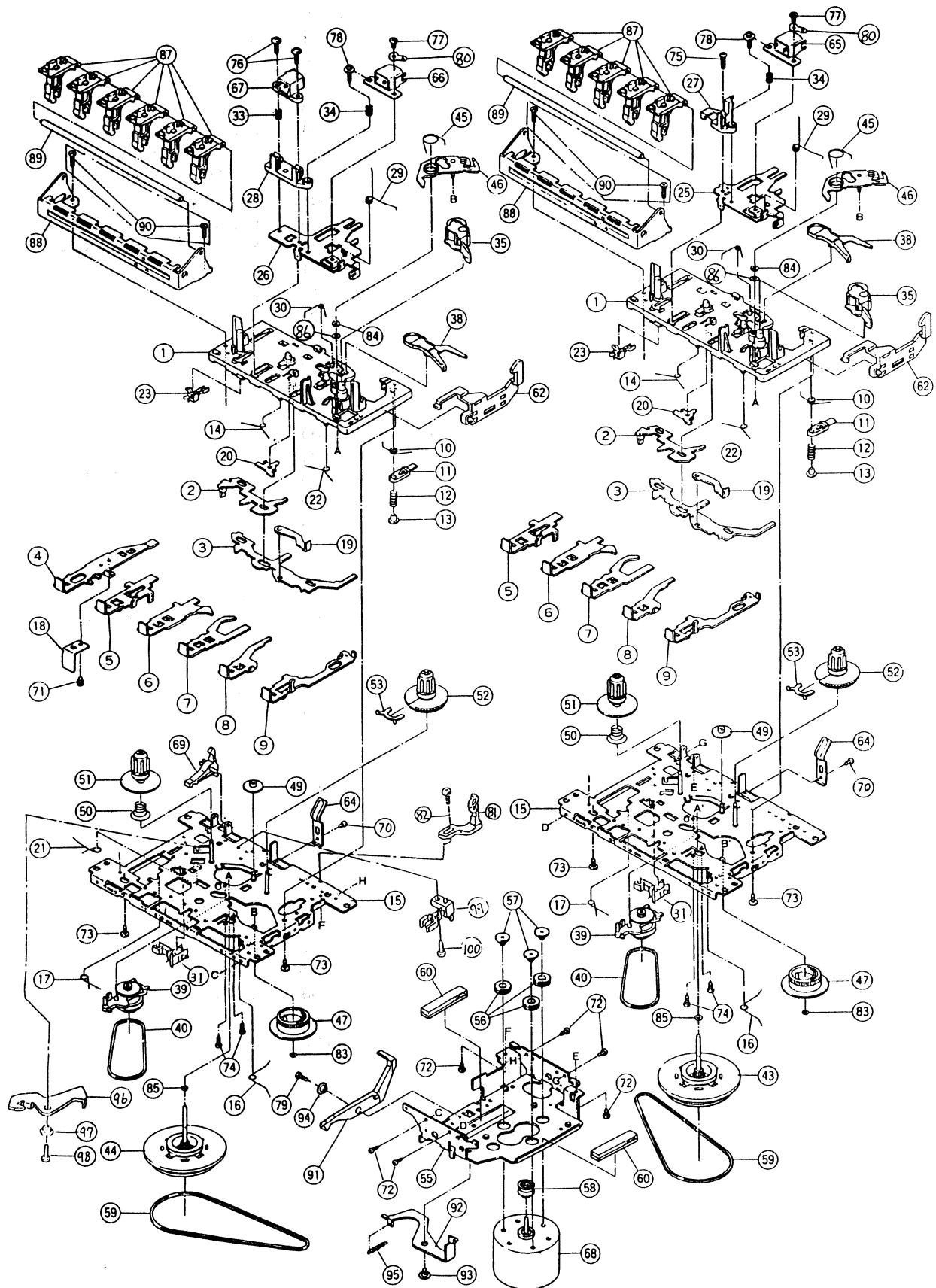
Ref. No.	Part No.	Description
1	401-CD119L	CASS DOOR (L)
2	401-CD119R	CASS DOOR (R)
3	401-DW119B	DISPLAY WINDOW (B)
4	401-DW119A	DISPLAY WINDOW (A)
5	351-SP119W	DOOR SPRING
6	400-RL119W	REC LEVEL KNOB
7	400-PU119W	PUSH KNOB
8	610-M219	MIRROR
9	400-PB219	POWER BUTTON
10	400-FP119W	FRONT PANEL
11	400-CK119C-F	CASS KEY C-F
12	400-PL119W	PLAY KEY
13	210-P119D-140	POWER SW PCB
14	202-07LB1017U	POWER SW
15	207-TN21ZSW1507	CASS DECK TN-21ZSW-1507
16	416-GD119W	GEAR DAMPER #1065
17	429-RP119	RUBBER PAD
18	400-CK119A-F	CASS KEY A-F
19	210-P119D-120	LEVEL CONTROL/DISPLAY PCB
20	430-CB119W	COUNTER BELT
21	256-TC119	COUNTER T3SA100-090-703
22	350-CN219	COUNTER HOLDER
23	400-TF119B	TUNER FOOT (B)
24	429-LE119W	LEG
25	412-A119W	PCB SUPPORT PS-01GA 6.4MM
26	400-SW119W	SCREW WASHER
27	350-BC119W	BOTTOM CHASSIS
28	210-P119D-110	MAIN PCB
29	406-C420	AC CORD BUSHING (SR4N-6)
30	200-PT41119B (XX,SS)	POWER TRANSFORMER EI-41(B)
30	200-PT41119BEU (EU)	POWER TRANSFORMER EI-41(B)
30	200-PT41119BUL (UL)	POWER TRANSFORMER EI-41(B)
31	350-RP119WXX (XX,SS)	REAR PANEL
31	350-RP119WUL (UL)	REAR PANEL
31	350-RP119WEU (EU)	REAR PANEL
32	181-207021 (XX,SS)	AC CORD
32	181-207002 (UL,CSA)	AC CORD
32	181-G2060 (EU)	AC CORD
33	350-TC119W	TOP COVER
34	306-B1301000	SCREW, P-TITE M3x10 YELLOW-BIND
35	307-B1300800	SCREW, B-TITE M3x8 YELLOW-BIND
36	302-B1401000	MACHINE SCREW, M4x10 YELLOW-BIND
37	307-BB301200	SCREW, B-TITE M3x12 BLACK-BIND
38	307-C1301010	SCREW, B-TITE M3x10 YELLOW-CUP-WASHER
39	400-VH219 (XX,SS)	VOLTAGE SWITCH HOLDER
40	202-HXW03511 (XX,SS)	VOLTAGE SELECTOR SWITCH HXWS0351-910010
41	322-A2355-A	FIBER WASHER 3.2DIAx8DIAx0.5t
42	306-B1260800	SCREW, P-TITE M2.6x8 ZINC-3-BIND
43	320-WS119	WASHER 10DIA.x3.2DIA.x0.8t
44	307-B1300600	SCREW, B-TITE M3x6 YELLOW-BIND

6-2. Mechanism

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	1921 14 301	Base Ass'y	53	1921 05 06	Sensor
2	1921 14 09	Switch Actuator	55	1921 12 11	Motor Bracket
3	1921 14 08	Push Button Actuator	56	1820 13 06	Motor Rubber
4	1921 14 22	Rec Button Lever	57	1821 12 02	Motor Coller Screw
5	1921 14 23	Play Button Lever	58	1921 12 13	Motor Pulley
6	1921 14 24	Rew Button Lever	59	1921 09 24	Main Belt
7	1921 14 25	FF Button Lever	60	1921 12 12	Anti Vibration Felt Mat
8	1921 14 26	Stop Button Lever	62	1921 13 02	Eject Slide Lever
9	1921 14 61	Pause Button Lever	64	1829 10 01	Pack Spring
10	1921 14 13A	P Control Spring	65	6202 01 89	P. Head SS15R-AA4N1
11	1921 14 55	Pause Lever (E)	66	6202 01 89	R.P. Head SS15R-AA4N1
12	1921 14 12	Pause Lever Spring	67	6202 14 21	E. Head LE15A-C1
13	1921 14 11	Pause Stopper	68	6003 03 44	Motor SHU-2L00
14	1921 14 14	Button Lever Spring (A)	69	1821 10 69	Record Safety Lever
15	1921 01 501	Chassis Ass'y	70	9P33 20 032	Deltite Screw 2x3
16	1921 14 16	E Actuator Spring	71	9179 00 00	C Tapping Screw M2x3
17	1921 14 17	P.S. Lever Spring	72	9180 00 00	C Tapping Screw M2x4
18	1510 02 02	Rec Spring Plate	73	9679 00 00	P Tapping Bing Screw M2x5
19	1821 01 159	E Kick Lever	74	9999 18 09	Tapping Screw (For Camera) M2x4.5
20	1921 14 20	PR Stopper	75	9004 00 00	Screw M2x6
21	1921 14 21	Rec Button Lever Spring	76	9223 00 00	ø Θ Cap Screw M2x7.5
22	1921 14 15	Button Lever Spring (B)	77	9115 00 00	ø Bind Screw M2x3
23	6401 01 149	Leaf Switch MSW-1541T	78	9922 00 00	Azimuth Screw M2x7
25	1921 03 11	Head Panel	79	9182 00 00	C Tapping Screw M2x6
26	1921 03 12	Head Panel	80	9480 00 00	Lug Plate 3B 2.0
27	1921 03 04A	Head Base	81	6401 01 125	Leaf Switch MSW-1664
28	1921 03 06	Head Base	82	9661 00 00	Cap Tapping Screw 2x5
29	1921 03 09	Panel P Spring	83	9422 00 00	P Washer Cut 1.2x3.8x0.3
30	1921 14 18A	M Control Spring	84	9999 03 13	P Washer Cut 1.45x3.8x0.5
31	6401 01 161	Leaf Switch MSW-17820MVDO	85	9882 00 00	P Washer 2x3.5x0.4
33	1821 03 08	EH Spring	86	9999 00 03	P Washer 2.1x4x0.13
34	1821 03 07	Azimuth Spring	87	1821 31 07	Operation Lever
35	1921 04 309	Pinch Roller Arm Ass'y	88	1821 31 06	Button Frame (S)
38	1921 26 04A	Sensing Lever	89	1829 31 03	Button Lever Shaft
39	1921 07 308	RF Clutch Ass'y	90	9999 14 02	S Tapping Screw (For Camera) M2x8 (Guide)
40	1921 07 03	RF Belt	91	1921 12 09	P Kick Lever (B)
43	1921 09 304	Flywheel Ass'y	92	1821 12 68	P Kick Lever (A)
44	1921 09 303	Flywheel Ass'y	93	1821 12 23	PK Coller Screw (A)
45	1921 26 05	Gear Plate Spring	94	1821 12 65	Coller (B)
46	1921 26 502	Gear Plate Ass'y	95	1821 12 25	P Kick Lever Spring
47	1921 26 02	Cam Gear	96	1921 02 01	Rec Arm
49	1821 10 70	FF Gear	97	1921 14 37	P Arm Coller
50	1821 10 99	Back Tension Spring	98	9180 00 00	ø C Tapping Screw 2x4
51	1921 05 304	Supply Reel Ass'y	99	6401 01 62	Leaf Switch MSW-1275ASNK
52	1921 05 303	Take Up Reel Ass'y	100	9181 00 00	ø C Tapping Screw 2x5

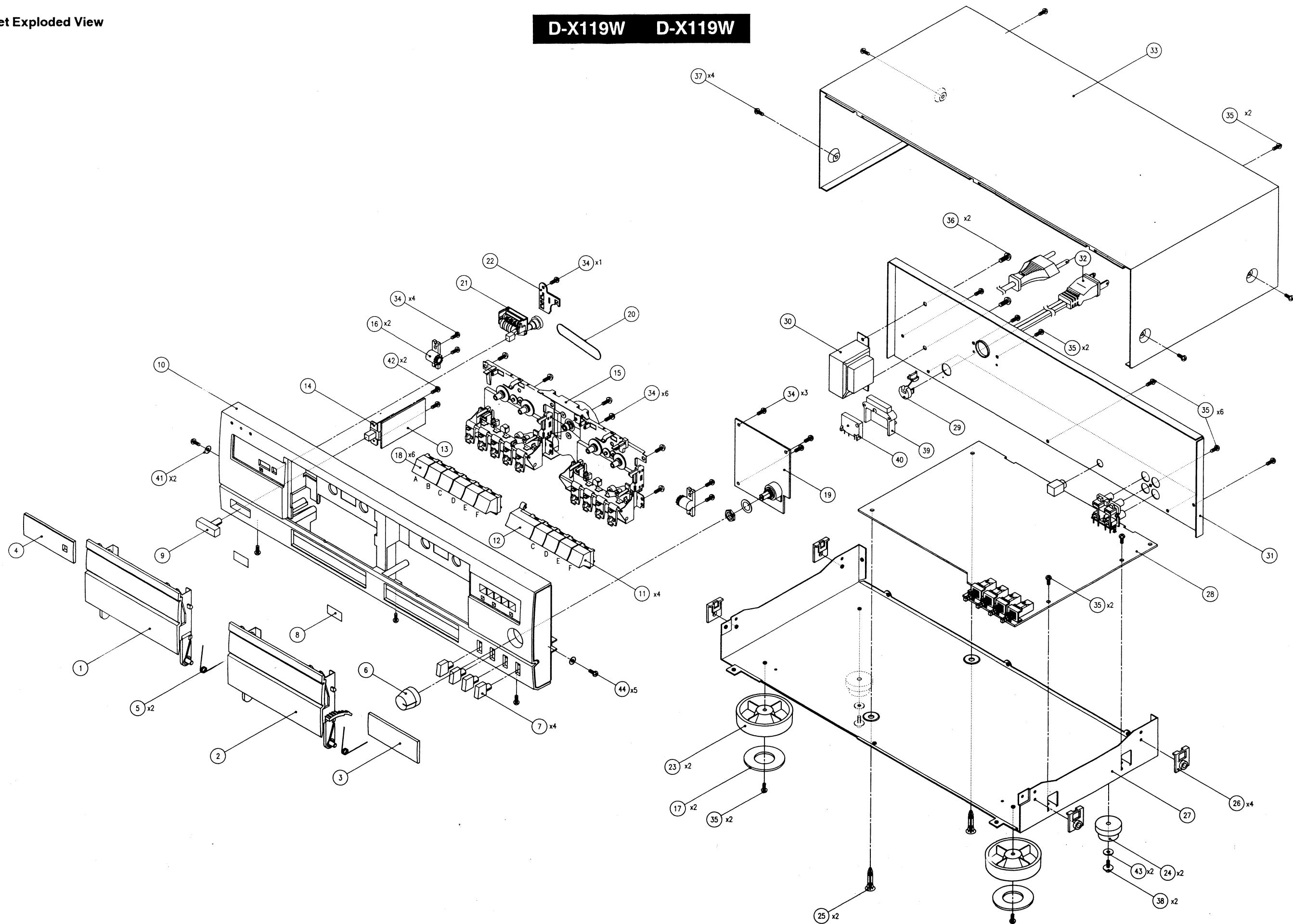
7. EXPLODED VIEW OF MECHANISM & CABINET

7-1. Mechanism Exploded View (TN-21ZSW-1507)



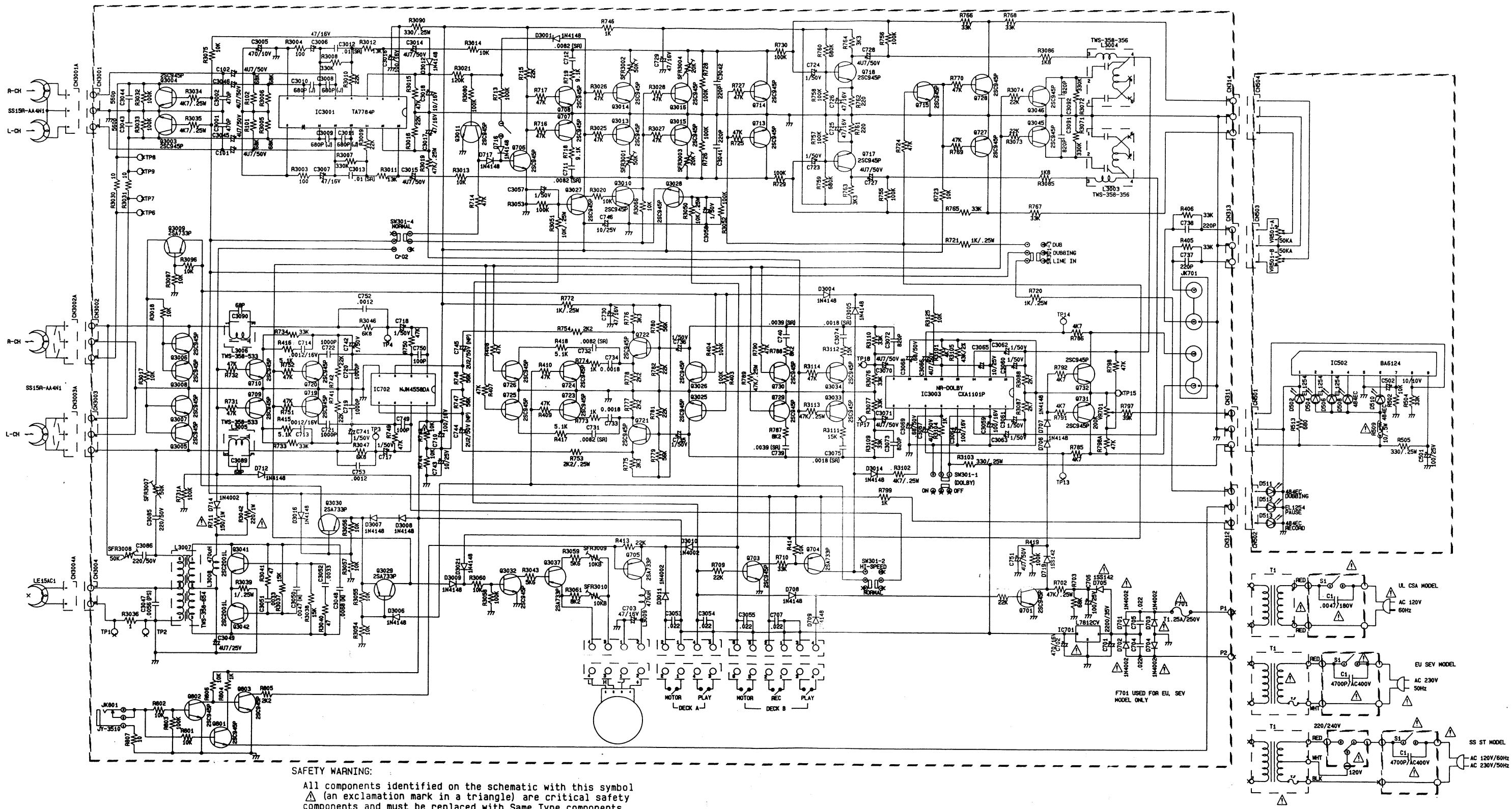
7-2. Cabinet Exploded View

D-X119W D-X119W



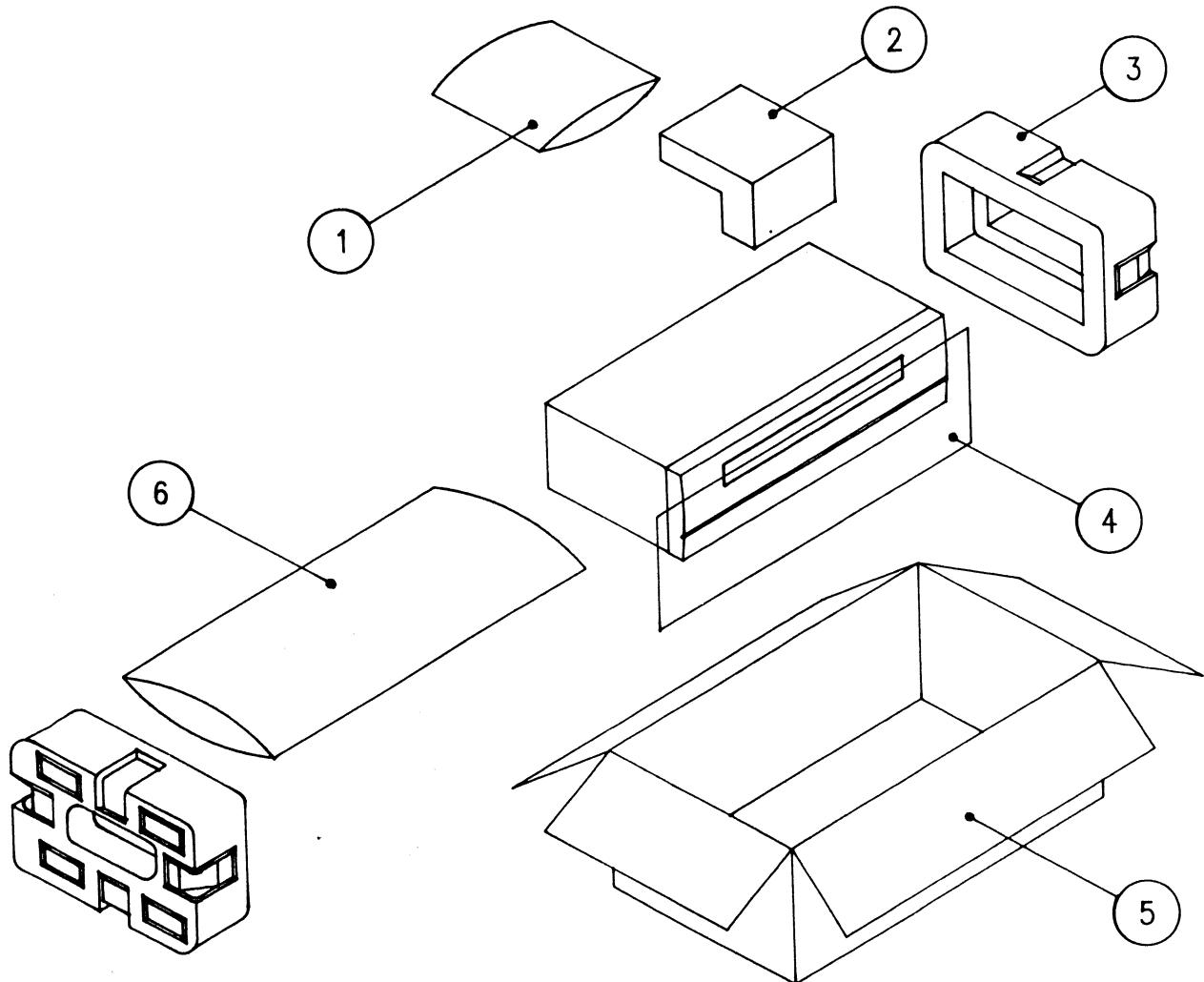
8. SCHEMATIC DIAGRAM

D-X119W D-X119W



9. PACKING LIST

Ref. No.	Part No.	Description
1	402-B219	Poly Bag 230x400x0.04t mm
2	404-L219	Snow Plate "L" 115x80x80mm
3	404-SB119W	Snow Box
4	434-A219	Miramat 550x330x0.5t mm
5	600-EC119WUL	Export Carton 508x292x194mm
6	402-A2900	PE Bag 600x500x0.05t mm



10. ACCESSORY LIST

Ref. No.	Part No.	Description
	186-A11000	Patch Cord BLK-1M
	186-C10600	Q3.5 Plug Cable BLK-600mm
	402-B219	Poly Bag (I/B) 230x400x0.04t mm
	612-A119W	Instruction Book (For UL,XX Model)
	612-B119W	Instruction Book (For SS Model Only)
	612-C119W	Instruction Book (For EU Model Only)